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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,700	10/22/2001	Jeffrey James O'Brien	10041-3	3769

23455 7590 01/30/2004

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EXAMINER	
VO, HAI	

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/014,700	O'BRIEN ET AL.	
	Examiner	Art Unit	
	Hai Vo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 October 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 9-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4-7, 9-11 and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Mrozinski (US 4,726,989). Mrozinski discloses a article comprising a microporous sheet material having an extruded, biaxially stretched film of high density polyethylene (HDPE) incorporated with a nucleating agent wherein the microporous sheet material has a network of micropores being connected to each other by fibrils (abstract, column 11, lines 57-60, column 12, lines 28-30, and column 18, lines 55-60). The microporous sheet material itself can be a laminate of other sheet materials to provide a composite structures which include the microporous sheet material (column 12, lines 38-42). Likewise, it is clearly apparent that the microporous sheet material is completely porous from one surface to other surface of the film. The microporous sheet material

is laminated to a woven cloth (column 12, lines 55-57), which corresponds to Applicants' non-cavitated backing layer. The microporous sheet material has a void content of at least 20% (table III). The microporous sheet material is porous in a direction perpendicular to the plane of the article (column 11, lines 25-35). The microporous sheet material is useful as a filter or a battery separator (column 12, lines 49-51). Mrozinski discloses that the additive compound is removed to provide a unique microporous sheet material formed only of the polymeric material with nucleating agent incorporated therein (column 11, lines 65-68). Likewise, it is clearly apparent that the microporous sheet material of Mrozinski is free of residual plasticizer. The microporous sheet material is comprised of HDPE having the molecular weight of 160,000, a melt index of 0.07 (column 18, lines 55-60, column 19, line 8). Mrozinski discloses the microporous sheet material comprising 0.1 to 5 parts by weight of the polymer weight (column 9, lines 40-45). Mrozinski does not specifically disclose the microporous sheet material having a lofting value of at least 3. It appears that the lofting value is defined as the thickness ratio achieved by the thickness of the layer achieved with the cavitating agent by the thickness of the layer achieved in the absence of the cavitating agent (Applicants' specification, page 8, lines 12-16). Further, the porosity and the thickness ratio is related according to the equation: porosity (%)= (1-T2/T1)*100; T1: thickness of the film achieved with the cavitating agent, T2: thickness of the film achieved without the cavitating agent. Since the microporous sheet material has the porosity within the claimed range, it is

the examiner's position that the thickness ratio or the lofting value would have inherently been within the claimed range in accordance with the porosity equation.

Mrozinski discloses that the microporous sheet material can be used to make bandages (column 12, lines 66-68). It appears that the transdermal patch is essentially a medicated bandage. Therefore, Mrozinski reads on the claimed transdermal patch as well. Applicants argue that the HDPE having the melt flow index of about 0.07 shows distinction between the presently claimed HDPE and the HDPE of Mrozinski. The examiner disagrees. It appears that Mrozinski does not specifically disclose the melt flow index being measured under the same ASTM D 1238-86 condition E as presently claimed. Accordingly, the examiner found it difficult to conclude that the melt flow index of the Mrozinski HDPE is different from that of presently claimed HDPE. Further, intrinsic viscosity and melt index are two properties which are related to a polymer's molecular weight. These properties give an indication as to how materials will act under various processing conditions. Since the molecular weight of the HDPE is within the claimed range, it is the examiner's position that the intrinsic viscosity and melt index together would inherently fall within the claimed ranges. Finally, Applicants argue that Mrozinski does not disclose or suggest the particular amount of incompatible material used in the presently claimed film structure. The arguments are not found persuasive. Mrozinski discloses the microporous sheet material comprising 0.1 to 5 parts by weight of the polymer weight (column 9, lines 40-45). Likewise, the nucleating agent represents 0.1 wt% to 5 wt% based on the total weight of the microporous sheet material, within the

claimed range. It is the examiner's position that Mrozinski anticipates or strongly suggests the claimed subject matter.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mrozinski (US 4,726,989) in view of Yagi et al (US 5,650,451). Mrozinski does not discloses the film surface being treated with plasma. Yagi teaches the surface of the film can be treated with plasma to improve the adhesion of the film to a surface of other material (column 15, line 16). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was treat the surface of the film with plasma motivated by the desire to improve the adhesion of the film to a surface of other material.

5. Claims 1, 2, 4-7, and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mrozinski (US 4,726,989) in view of Su et al (US 5,885,721). See discussion in the paragraph no. 3. The microporous sheet material is comprised of HDPE having the molecular weight of 160,000 within the claimed range. It appears that the molecular weight is empirically related to the intrinsic viscosity of the polymer according to the equation: $M= 8.88x10^4[n]^{1.25}$. Likewise, the intrinsic viscosity lies within the claimed range. Assuming that Mrozinski discloses the melt flow index being measured under the same ASTM D 1238-86 condition E as presently claimed. The presently claimed HDPE is thus different from the HDPE of prior art in view of the melt flow index value. However, Su teaches that a HDPE film having a melt index of from 0.7 to 2 being used to provide a film having high biaxial orientation and facilitate the processing, which is important to the expectation of

successfully practicing the invention of Mrozinski. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was use the HDPE with the melt flow index instantly claimed motivated by the desire to provide the film having high biaxial orientation and facilitate the processing.

Mrozinski fails to teach CaCO3 being a nucleating agent. Su teaches a biaxially oriented, stretched multilaminar film of high density polyethylene comprising CaCO3 as a nucleating agent (column 14, line 30). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ CaCO3 as a nucleating agent because of its commercial availability and economical advantage.

Mrozinski teaches the composite material comprising the laminate of two microporous sheet material (column 12, lines 38-42). Mrozinski does not specifically disclose the composite material comprising a non-cavitating backing layer. Mrozinski however, teaches the composite material being used as a battery separator, a filter, a raincoat, a bandage. Therfore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the backing layer in combination with the composite material because such is a typical and practical structure of the materials for use in battery separators, filters, raincoats, and bandages.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mrozinski (US 4,726,989) in view of Su et al (US 5,885,721), as applied to claim 1 above, further in view of Yagi et al (US 5,650,451). Mrozinski does not discloses the film

surface being treated with plasma. Yagi teaches the surface of the film can be treated with plasma to improve the adhesion of the film to a surface of other material (column 15, line 16). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was treat the surface of the film with plasma motivated by the desire to improve the adhesion of the film to a surface of other material.

Terminal Disclaimer

7. The terminal disclaimer filed on 10/08/2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of co-pending US Patent Application No. 09/778,558 filed on 07/02/2001 has been reviewed and is accepted. The terminal disclaimer has been recorded. The double patenting rejections have been overcome by the terminal disclaimer.
8. The claim objections and the 112 claim rejections have been overcome by the present amendment and response.
9. The art rejections over Yagi in view of Gutierrez-Villarreal have been overcome by the present amendment and response.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-0994.

HV

TERREL MORRIS
SUPERVISORY PATENT EXAMINER
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